



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,880	03/31/2004	Kyoko Egashira	60188-827	4575

7590 03/07/2006

Jack Q. Lever, Jr.  
McDERMOTT, WILL & EMERY  
600 Thirteenth Street, N.W.  
Washington, DC 20005-3096

EXAMINER

NHU, DAVID

ART UNIT PAPER NUMBER

2818

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/812,880

Applicant(s)

EGASHIRA ET AL.

Examiner

David Nhu

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTIONS

### *Election/Restrictions*

1. *Applicant's election of Group I (Claims 1-6) is acknowledge. Claims 1-6 are remained for examination. Accordingly, claims 7-11 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.*

### **Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102 (b) as being anticipated by Background of Invention (BOI) and Adam (6,175,131 B1).

**Regarding claim 1**, BOI, (see figures 10, 11, pages 1-3), teaches a semiconductor device comprising; an interconnect 201 made of a first conductive film and a second conductive film that are stacked in sequence from the interconnect underside on an insulating film 204 formed on a substrate (see figure 10); a capacitor composed of a lower capacitor electrode 201 made of the first conductive film, a dielectric film 202 formed on the lower capacitor electrode, and an upper capacitor electrode made of the second conductive film and formed on the dielectric film (see figure 10).

**Regarding claim 1**, Adam, (see figures 1, 3, col. 5, lines 55-67, col. 6, lines 1-21, col. 7, lines 45-67, col. 8, lines 1-140) , teaches a semiconductor device comprising; an interconnect 14 made of a first conductive film 8 and a second conductive film 12 that are stacked in sequence

from the interconnect underside on an insulating film 9 formed on a substrate<sup>1</sup> ; a capacitor composed of a lower capacitor electrode C1 made of the first conductive film, a dielectric film formed on the lower capacitor electrode, and an upper capacitor electrode C2 made of the second conductive film and formed on the dielectric (see figure 3)

**Regarding claim 2**, BOI, (see figure 10, 11, pages 1-3), teaches a semiconductor device comprising; an interconnect 201 made of a first conductive film and a second conductive film that are stacked in sequence from the interconnect underside on an insulating film 204 formed on a substrate (see figure 10); a capacitor composed of a lower capacitor electrode 201 made of the first conductive film, a dielectric film 202 formed on the lower capacitor electrode, and an upper capacitor electrode made of the second conductive film and formed on the dielectric film (see figure 10); an extension interconnect (between 206a and 206b) made of the first conductive film connected to the interconnect made of the first and second conductive films stack (see figure 10).

**Regarding claim 3**, BOI, (see figures 11, pages 1-3), teaches a semiconductor device comprising; an interconnect 201 made of a first conductive film and a second conductive film that are stacked in sequence from the interconnect underside on an insulating film 204 formed on a substrate (see figure 10); a resistor 302 made of the first conductive film and formed on the insulating film 301 (see figure 11).

**Regarding claim 4**, BOI, (see figures 10, 11, pages 1-3), teaches a semiconductor device comprising; an interconnect 201 made of a first conductive film and a second conductive film that are stacked in sequence from the interconnect underside on an insulating film 204 formed on a substrate (see figure 10); a capacitor composed of a lower capacitor electrode 201 made

Art Unit: 2818

of the first conductive film, a dielectric film 202 formed on the lower capacitor electrode, and an upper capacitor electrode made of the second conductive film and formed on the dielectric film (see figure 10); a resistor 302 made of the first conductive film and formed on the insulating film 301 (see figure 11).

Regarding claims 5,6, Adam, (see col. 4, lines 1-38), teaches the first and second conductive films made of metal nitride and aluminum.

**Conclusion**


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Chen'442, Zurcher'724, Ng'918, Zurcher'092, Lachner'935 are cited as of interest.

5. A shortened statutory period for response to this action is set to expired 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).

6. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (571)272-1787.

*The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956*

David Nhu 



March 2, 2006